The Examiner is respectfully requested to amend the above-identified application as follows:

IN THE SPECIFICATION

Please replace the original specification with the substitute specification submitted herewith (a version, marked to show the changes, is submitted as well).

IN THE CLAIMS

Please cancel Claims 13, 17-19, 47, 60, 62-68, 102, 104-106, 108, 109, 133, 134, 152-159, 188, and 190-198 without prejudice or disclaimer of the subject matter presented therein.

Please amend Claims 1-12, 14-16, 20-46, 48-59, 61, 69-101, 103, 107, 110-132, 135-151, 160-187, 189, 199, and 200, and add Claims 201-206 to read as follows. A marked-up copy of those claims, showing the changes made thereto, is attached.

1.   (Amended) Method of communicating on a network (800) having communication devices (801 to 809), each communication device being adapted to determine, for each item of information which it has to transmit, the path to cause it to follow on the network and a transmission mode, connected or non-connected, said method comprises:

-    for each communication device which is to effect a transmission in connected mode, an information operation (313) during which said communication device broadcasts, to all the other communication devices in the network, an item of information (253) representing the passband necessary for said transmission in connected mode, and

-       an operation of allocating a passband (1221), during which there is allocated, on the one hand, to the transmissions in connected mode, the passband which is necessary to them and, on the other hand, all or part of the passband available to each transmission to be effected in non-connected mode.

2.   (Amended) Communication method according to Claim 1, further comprises, for the establishment of a connection:

-       effected by the source communication device (801) intended to transmit information on said path, an operation of transmitting (305), to each communication device placed on said path, referred to as "intermediate" (803, 804), an item of information (251) representing the passband necessary for said connection, and

-       effected by each intermediate communication device on said path, an operation of determining the availability (1402, 1404) of the link leading to the following communication device on said path and, in the event of unavailability, an operation of transmitting (333), to the source communication device, an item of information representing the unavailability of said path.

3.   (Twice Amended) Communication method according to Claim 1, further comprises, for each transmission of information, a flow control operation performed by each of the intermediate communication devices on the path followed by said information.

4.   (Amended) Communication method according to Claim 3, wherein the flow control operation performed by each intermediate communication device is

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performed in accordance with IEEE 1355.

5.   (Twice Amended) Communication method according to Claim 1 further comprises:

-    for each communication device in the network, following each information operation, an operation of determining the passband (1303, 1403, 1503) available on each link, taking into account said information, and

-    for each so-called "source" communication device which is to effect a transmission in non-connected mode to a destination communication device:

•   an operation of determining the availability of a path for a transmission in non-connected mode, during which it is determined whether at least one path going from said source communication device to sold destination communication device is at least partially available for said transmission,

•   and, in the affirmative, an operation of transmitting on said path, in non-connected mode.

6.   (Twice Amended) Communication method according to Claim 1, further comprises an information transmission operation (254, 257, 259) taking several priority levels into account.

7.   (Amended) Communication method according to Claim 6, wherein a priority level is allocated to transmission in non-connected mode.

8.   (Twice Amended) Communication method according to Claim 6,

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wherein, during the passband allocation operation (1221), the passband associated with the priority level corresponding to the non-connected mode varies as a function of a period which did not give rise to any transmission.

9.   (Amended) Communication method according to Claim 8, wherein said period is a period separating the last transmission in non-connected mode and the next transmission in connected mode.

10.   (Twice Amended) Communication method according to Claim 6, wherein, during the passband allocation operation (1221), the passband associated with the priority level corresponding to the non-connected mode varies as a function of a number of packets not transmitted during a predetermined period.

11.   (Twice Amended) Communication method according to Claim 6, wherein the predictive real-time traffic is transmitted with a priority level greater than that of the guaranteed real-time traffic.

12.   (Twice Amended) Communication method according to Claim 6, wherein each priority level is associated with a list of virtual channels (1105 to 1110), successively used.

14.   (Twice Amended) Communication method according to Claim 12, further comprises a traffic parameter determination operation (1221), during which a size of packets transmitted on said network is determined, said operation taking into account

the load on said network.

15.   (Twice Amended) Communication method according to Claim 12, further comprises a traffic parameter determination operation (1221), during which a number of packets to be sent on said network is determined, said operation taking into account the load on said network.

16.   (Twice Amended) Communication method according to Claim 12, further comprises a traffic parameter determination operation (1221) during which a period available for sending the packets remaining to be sent on said network is determined, said operation taking into account the load on said network.

20.   (Twice Amended) Communication method according to Claim 6, further comprises a control information transmission operation, during which each item of control information is transmitted with the highest priority level.

21.   (Twice Amended) Communication method according to Claim 6, wherein, for at least one priority level, the information not transmitted during a predetermined interval of time is eliminated before transmission.

22.   (Twice Amended) Communication method according to Claim 6, wherein, for at least one priority level, the information not transmitted during a predetermined interval of time is stored in order to be transmitted during the following time interval.

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23.   (Twice Amended) Communication method according to Claim 1, wherein the real-time traffic, predictive or guaranteed, is transmitted in connected mode.

24.   (Twice Amended) Communication method according to Claim 1, wherein the elastic traffic is transmitted in non-connected mode.

25.   (Twice Amended) Communication method according to Claim 1, further comprises, for each communication device placed on the path intended to be followed by a transmission in connected mode, a checking operation (1404), during which it is checked that the passband necessary for said transmission is available on said path.

26.   (Twice Amended) Communication method according to Claim 1, wherein, for the predictive traffic, the information not transmitted during a predetermined time interval is eliminated before transmission.

27.   (Twice Amended) Communication method according to Claim 1, wherein, for the guaranteed traffic, the information not transmitted during a predetermined time interval is stored in order to be transmitted during the following time interval.

28.   (Twice Amended) Method according to Claim 1, wherein each communication device effects each information transmission by packet switching.

29.   (Twice Amended) Communication method according to Claim 1, further comprises, for establishing a connection:

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A/ performed by a communication device which is a source of information to be transmitted in connected mode:

- an operation of determining a passband requirement for the transmission of said information in connected mode,

- an operation of determining any path available for said transmission, according to information stored in a load table for each link in the network, and

- when an available path is determined:

• an operation of sending an item of information representing said passband requirement to the following communication device on said path, and

• an operation of updating said load table for the links in the network,

- an operation of broadcasting, to at least all the communication devices outside the path, an item of information representing said passband requirement,

B/ performed by each intermediate communication device on said path:

- an operation of determining availability of said path, for said communication, according to information stored in a load table for each link in the network, and

- when the path is available:

• an operation of sending an item of information representing said passband requirement, to the following communication device on the path, and

• an operation of updating a load table for the links in the network,

C/ performed by each communication device outside said path:

- an operation of updating a load table for the links in the network.

30.   (Twice Amended) Communication method according to Claim 1,

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between communication devices each able to determine, for each item of information which it has to transmit, a path to cause it to follow, further comprises:

- performed by each so-called "source" communication device, which requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, an operation of requesting a connection, during which the source communication device sends, to each communication device on said path, a request to establish a connection,

- when establishment of said connection is possible, performed by at least the destination communication device, an operation of sending, to the source communication device, a connection acceptance,

- performed by the source communication device, an operation of broadcasting, to all the communication devices in the network, an item of information representing the establishment of the connection,

- performed by each communication device on said path, on reception of said information representing the establishment of a connection, an operation of confirmation of establishment of said connection, and

- performed by each communication device outside said path, on reception of said information representing the establishment of a connection, an operation of storing an item of information representing said connection.

31.   (Amended) Device for communication on a network having communication devices, each communication device being adapted to determine, for each item of information which it has to transmit, a path to cause it to follow on the network and a transmission mode, connected or not, said device comprises:

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- an information means adapted, for each transmission in connected mode, to broadcast, to all the other communication devices in the network, an item of information representing the passband necessary for said transmission in connected mode, and

- a passband allocation means, adapted to allocate, on the one hand, to the transmissions in connected mode, the passband which is necessary to them, and, on the other hand, all or part of the passband available to each transmission to be effected in non-connected mode.

32.   (Amended) Communication device according to Claim 31, wherein:

- the information means is adapted, for the establishment of a connection, to transmit, to each communication device placed on said path, referred to as "intermediate", an item of information representing the passband necessary for said connection, and

- it has a means of determining availability in connected mode, adapted, when said communication device is an intermediate communication device on a path intended to be associated with a connection, to determine the availability of the link leading to the following communication device on said path and, in the event of unavailability, to cause a transmission means to transmit, to the source communication device, an item of information representing the unavailability of said path.

33.   (Twice Amended) Communication device according to Claim 31, further comprises a flow control means adapted, for each transmission of information in non-connected mode for which said device is incorporated in an intermediate

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communication device, to check the availability of the path followed by said information.

34. (Amended) Communication device according to Claim 33, wherein it is adapted to implement communication procedures in accordance with IEEE 1355.

35. (Twice Amended) Communication device according to Claim 31, further comprises an available passband determination means adapted:

- to determine the passband available on each link of a path associated with a connection, on reception of each item of information representing a passband coming from another communication device, taking said information into account, and

- when said communication device must effect a transmission in non-connected mode to a destination communication device, to determine the at least partial availability of at least one path going from said source communication device to said destination communication device for a transmission in non-connected mode.

36. (Twice Amended) Communication device according to Claim 31, further comprises an information transmission means taking into account several priority levels.

37. (Amended) Communication device according to Claim 36, wherein the transmission means is adapted so that a priority level is allocated to the transmission in non-connected mode.

38. (Twice Amended) Communication device according to Claim 36,

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wherein the passband allocation means is adapted so that the passband associated with the priority level corresponding to the non-connected mode varies according to a period which has not given rise to any transmission.

39.   (Amended) Communication device according to Claim 38, wherein the passband allocation means is adapted so that said period is the period separating the last transmission in non-connected mode and the next transmission in connected mode.

40.   (Twice Amended) Communication device according to Claim 36, wherein the passband allocation means is adapted so that the passband associated with the priority level corresponding to the non-connected mode varies according to a number of packets not transmitted during a predetermined period.

41.   (Twice Amended) Communication device according to Claim 36, wherein the information transmission means is adapted so that the predictive real-time traffic is transmitted with a priority level higher than that of the guaranteed real-time traffic.

42.   (Twice Amended) Communication device according to Claim 36, wherein the information transmission means is adapted so that each priority level is associated with a list of virtual channels, used in succession.

43.   (Amended) Communication according to Claim 42, wherein the information transmission means is adapted so that said virtual channels are associated with
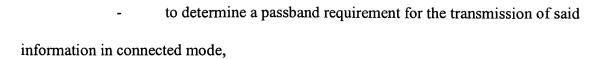
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the outgoing traffic.

44. (Twice Amended) Communication device according to Claim 42, wherein it includes a traffic parameter determination means adapted to determine a size of packets transmitted on said network, taking into account the load on said network.

45. (Twice Amended) Communication device according to Claim 42, further comprises a traffic parameter determination means adapted to determine a number of packets to be sent on said network, taking into account the load on said network.

46. (Twice Amended) Communication device according to Claim 42, further comprises a traffic parameter determination means adapted to determine a period available for sending the packets remaining to be sent on said network, taking into account the load on said network.

48. (Twice Amended) Communication device according to Claim 36, wherein the transmission means is adapted to transmit each item of control information with the highest priority level.

49. (Twice Amended) Communication device according to Claim 36, wherein the transmission means is adapted so that, for at least one priority level, the information not transmitted during a predetermined time interval is eliminated before transmission.

50.   (Twice Amended) Communication device according to Claim 36, wherein the transmission means is adapted so that, for at least one priority level, the information not transmitted during a predetermined time interval is stored in order to be transmitted during the following time interval.

51.   (Twice Amended) Communication device according to Claim 31, wherein it is adapted so that the real-time traffic, predictive or guaranteed, is transmitted in connected mode.

52.   (Twice Amended) Communication device according to Claim 31, wherein it is adapted so that the elastic traffic is transmitted in non-connected mode.

53.   (Twice Amended) Communication device according to Claim 31, wherein each communication device placed on the path intended to be followed by a transmission in connected mode, has a checking means adapted to check that the passband necessary for said transmission is available on said path.

54.   (Twice Amended) Communication device according to Claim 31, further comprises a transmission means adapted to eliminate the information not transmitted during a predetermined time interval, for the predictive traffic.

55.   (Twice Amended) Communication device according to Claim 31, further comprises a transmission means adapted to store, for a subsequent transmission, the information not transmitted during a predetermined time interval, for the guaranteed traffic.

56. (Twice Amended) Device according to Claim 31, wherein each communication device is adapted to implement a protocol for the transmission of information by packet switching.

57. (Twice Amended) Communication device according to Claim 31, further comprises:

- a means of determining free time in said base period after sequencing of all the transmissions, adapted to organise all the other transmissions, and

- a regulation means adapted to regulate the passband available for the transmissions in non-connected mode.

58. (Amended) Communication device according to Claim 57, wherein said regulation means is adapted:

- to reduce the passband allocated to the transmissions in non-connected mode, when the free time is negative, and

- to increase the passband allocated to the transmissions in non-connected mode, when the free time is positive.

59. (Twice Amended) Communication device according to Claim 31, wherein:

- it has a memory adapted to store a load table containing information relating to the load on each link in the network, and

- it is adapted, for establishing a connection:

for the transmission of information in connected mode:

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-        to determine a passband requirement for the transmission of said information in connected mode,

-        to determine any path available for said transmission, according to information stored in said load table, and, when an available path is determined,

-        to cause the transmission means to send an item of information representing said passband requirement, to the following communication device on said path,

-        to update said load table,

-        to cause the transmission means to broadcast, to at least all the communication devices outside the path, an item of information representing said passband requirement.

61.   (Twice Amended) Computer, comprising a communication device according to Claim 31.

69.   (Twice Amended) An information storage means which can be read by a computer or a microprocessor storing instructions of a computer program, wherein it allows the implementation of a communication method according to Claim 1.

70.   (Twice Amended) An information storage means which is removable, partially or totally, and which can be read by a computer or a microprocessor storing instructions of a computer program, wherein it allows the implementation of a communication method according to Claim 1.

71. (Amended) Method of communicating between communication devices (101 to 105, 801 to 809) in a packet switched network having at least one switch (209), comprising a transmission mode determination operation (1302), during which, for each item of information to be transmitted, a transmission mode is determined, connected or non-connected, and then

- for each item of information to be transmitted in connected mode:

• an operation (1304 to 1308, 301 to 313) of reserving a path on said network, and then

• an operation of transmitting said information (314), in connected mode, on the path reserved during the reservation operation, and

- for each item of information to be transmitted in non-connected mode:

• an operation of estimating the availability of a path on said network, and then, when a path is deemed to be available for transmission of said information,

• an operation of transmitting said information, on said path, in non-connected mode.

72. (Amended) Communication method according to Claim 71, wherein the path reservation operation includes an operation of transmitting (305), on said path, a message (251) including information representing the application requirement for transmission in connected mode.

73. (Twice Amended) Communication method according to Claim 71, wherein the operation of reserving a path on said network includes an operation of

updating (1303, 1307, 1403, 1407, 1503, 1504) a load table (1100) stored by each

communication device in the network.

74. (Amended) Communication method according to Claim 73, wherein,

during the availability estimation operation, values stored in the load table (1100) of the

communication device which has at least one item of information to be transmitted are

taken into account.

75. (Twice Amended) Communication method according to Claim 73,

wherein the table updating operation includes an operation of determining parameters

(1303, 1403, 1503) representing the application requirement for transmission in connected

mode.

76. (Twice Amended) Communication method according to Claim 73,

wherein the load table updating operation includes an operation of storing in memory the

passband available for each link (1001 to 1004) on a path leaving the communication

device under consideration (1011 to 1013).

77. (Twice Amended) Communication method according to Claim 73,

wherein the load table updating operation includes an operation of storing in memory the

passband available for each link (1001 to 1007) in the network forming part of a path

associated with a connection (1011 to 1015).

78. (Twice Amended) Communication method according to Claim 71,

wherein the path reservation operation includes an operation of checking (1404, 1405), by means of each intermediate communication device (803, 804) on said path, the availability of the path to be reserved.

79. (Twice Amended) Communication method according to Claim 71, wherein the estimation operation consists of determining whether at least one path is at least partially available for transmission in non-connected mode.

80. (Twice Amended) Communication method according to Claim 71, wherein, during the availability estimation operation, information representing transmissions in connected mode is taken into account.

81. (Twice Amended) Communication method according to Claim 71, wherein the estimation operation is independent of any transmissions in non-connected mode, coming from other communication devices in the network.

82. (Twice Amended) Method according to Claim 71, wherein the network uses the IEEE 1355 communication protocol.

83. (Twice Amended) Method according to Claim 71, wherein the reservation operation includes an operation of transmitting (305) a message (251) containing information representing each link on the path to be reserved.

84. (Twice Amended) Method according to Claim 71, wherein the

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reservation operation includes:

- an operation of broadcasting (313) a table updating message (253) destined for all the communication devices in the network (802 to 809), and

- for each communication device in the network which is not on the path to be reserved, an operation of updating a load table (1504).

85. (Twice Amended) Communication method according to Claim 71, further comprising, for establishing a connection:

A/ performed by a communication device which is a source of information to be transmitted in connected mode:

- an operation of determining a passband requirement for transmission of said information in connected mode,

- an operation of determining any path available for said transmission, according to information stored in a load table for each link in the network, and

- when an available path is determined:

• an operation of sending an item of information representing said passband requirement to the following communication device on said path, and

• an operation of updating said load table for the links in the network,

- an operation of broadcasting, to at least all the communication devices outside the path, an item of information representing said passband requirement,

B/ performed by each intermediate communication device on said path:

- an operation of determining the availability of said path, for said communication, according to information stored in a load table for each link in the network, and
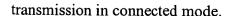
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-      when the path is available:

°   an operation of sending an item of information representing said passband requirement to the following communication device on said path, and

°   an operation of updating said load table for the links in the network,

C/ performed by each communication device outside said path:

-      an operation of updating a load table for the links in the network.

86.   (Twice Amended) Communication method according to Claim 71, between communication devices each able to determine the path to be followed by each item of information which it has to send, further comprising;

-      performed by each so-called "source" communication device, which requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, a connect request operation, during which the source communication device sends, to each communication device on said path, a request for establishing a connection,

-      when establishment of said connection is possible, performed by at least the destination communication device, an operation of sending, to the source communication device, a connection acceptance,

-      performed by the source communication device, an operation of broadcasting, to all the communication devices in the network, an item of information representing the establishment of the connection,

-      performed by each communication device on said path, on reception of said information representing the establishment of a connection, an operation of confirming the establishment of said connection, and

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- performed by each communication device outside said path, on reception of said information representing the establishment of a connection, an operation of storing in memory an item of information representing said connection.

87. (Amended) Device for communicating on a packet switched network having at least one switch (209), comprising:

- a transmission mode determination means (204A, 204B, 206A, 206B, 234, 236) adapted to determine, for each item of information to be transmitted, a transmission mode, connected or non-connected,

- a reservation means (204A, 204B, 206A, 206B, 234, 236) adapted, for each item of information to be transmitted in connected mode, to reserve a path on said network,

- a path availability estimation means (204A, 204B, 206A, 206B, 234, 236) adapted, for each item of information to be transmitted in non-connected mode, to estimate the availability of at least one path, and

- a transmissions means (204A, 204B, 206A, 206B, 234, 236) adapted on the one hand to transmit, in connected mode, each item of information to be transmitted in connected mode, on the path reserved by the reservation means, and on the other hand to transmit, in non-connected mode, on a path deemed to be available by the availability estimation means, each item of information to be transmitted in non-connected mode.

88. (Amended) Communication device according to Claim 87, wherein the reservation means is adapted to cause the transmission means to transmit, on said path, a message (251) including information representing the application requirement for

transmission in connected mode.

89.   (Twice Amended) Communication device according to Claim 87, further comprising a memory adapted to store a load table (1100) and in that the reservation means is adapted to update said load table.

90.   (Amended) Communication device according to Claim 89, wherein the estimation means is adapted to take into account values stored in the load table (1100) in order to estimate the availability of a path.

91.   (Twice Amended) Communication device according to Claim 89, wherein, in order to update the load table (1100), the reservation means is adapted to determine parameters representing the application requirement for transmission in connected mode.

92.   (Twice Amended) Communication device according to Claim 89, wherein, in order to update the load table (1100), the reservation means is adapted to store therein the passband available for each link (1001 to 1004) in a path (1011 to 1013) leaving the communication device under consideration.

93.   (Twice Amended) Communication device according to Claim 89, wherein, in order to update the load table (1100), the reservation means is adapted to store therein the passband available for each link (1001 to 1007) in the network forming part of a path associated with a connection (1011 to 1015).

94.   (Twice Amended) Communication device according to Claim 87, wherein the path reservation means is adapted to cause each intermediate communication device (803, 804) on said path to check the availability of the path to be reserved.

95.   (Twice Amended) Communication device according to Claim 87, wherein the estimation means is adapted to determine whether at least one path is at least partially available for transmission in non-connected mode.

96.   (Twice Amended) Communication device according to Claim 87, wherein the estimation means is adapted to take into account information representing transmissions in connected mode.

97.   (Twice Amended) Communication device according to Claim 87, wherein the estimation means is adapted not to take into account any transmissions in non-connected mode coming from other communication devices in the network.

98.   (Twice Amended) Device according to Claim 87, wherein the transmission means is adapted to implement the IEEE 1355 communication protocol.

99.   (Twice Amended) Device according to Claim 87, wherein the reservation means is adapted to cause the transmission means to transmit a message (251) containing information representing each link on the path to be reserved for each transmission in connected mode.

100.   (Twice Amended) Device according to Claim 87, wherein the

reservation means is adapted:

-        to cause the transmission means to broadcast a table-updating

message (253) intended for all the communication devices in the network, and

-        when the communication device which includes said reservation

means receives such a message, and when it is not on the path to be reserved, to update a

load table.

101.   (Twice Amended) Communication device according to Claim 87,

wherein it:

-        has a memory adapted to store a load table containing information

relating to the load on each link in the network, and

-        is adapted, for establishing a connection:
for transmitting information in connected mode:

-        to determine a passband requirement for transmission of said

information in connected mode,

-        to determine any path available for said transmission, according to

information stored in said load table,
and, when an available path is determined,

-        to cause the transmission means to send an item of information

representing said passband requirement, to the following communication device on said

path,

-        to update said load table,

-        to cause the transmission means to broadcast, to at least all the

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communication devices outside the path, an item of information representing said passband requirement.

103.   (Twice Amended) Computer, comprising a communication device according to Claim 87.

107.   (Twice Amended) Television receiver, comprising a communication device according to Claim 87.

110.   (Twice Amended) Audio/video reader, comprising a communication device according to Claim 87.

111.   (Twice Amended) An information storage means which can be read by a computer or a microprocessor storing instructions of a computer program, wherein it allows the implementation of a communication method according to Claim 71.

112.   (Twice Amended) An information storage means which is removable, partially or totally, and which can be read by a computer or a microprocessor storing instructions of a computer program, wherein it allows the implementation of a communication method according to Claim 71.

113.   (Amended) Method of communicating on a network, comprising, for establishing a connection:

A/ performed by a communication device which is a source of information

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to be transmitted in connected mode (801):

- an operation (1302) of determining a passband requirement for transmission of said information in connected mode,

- an operation of determining any path available for said transmission (1304), according to information stored in a load table for each link in the network, and

- when an available path is determined:

• an operation of transmitting (305) an item of information representing said passband requirement (251) to the following communication device on said path (803), and

• an operation of updating (1307) said load table for the links in the network,

- an operation of broadcasting, to at least all the communication devices outside the path (805 to 809), an item of information representing said passband requirement (253),

B/ performed by each intermediate communication device (803, 804) on said path:

- an operation of determining the availability of said path (1404), for said communication, according to information stored in a load table for each link in the network, and

- when the path is available:

• an operation of transmitting (336) an item of information representing said passband requirement to the following communication device on said path (804, 802), and

• an operation of updating said load table (1407) for the links in the

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network,

C/ performed by each communication device outside said path (805 to 809):

- an operation of updating a load table for the links in the network.

114. (Amended) Communication method according to Claim 113, wherein, during the operation of transmitting (305) said passband requirement (251) to the following communication device on said path, the source communication device (801) transmits an item of information representing an application requirement for said transmission in connected mode.

115. (Amended) Communication method according to Claim 114, further comprising, performed by each communication device in the network (801 to 809), an operation of determining communication parameters (1303, 1403, 1503) depending on the application requirement, and said parameters are taken into account in performing the table updating operation (1307, 1407, 1504).

116. (Twice Amended) Communication method according to Claim 113, further comprising, at the end of the transmission in connected mode:

- performed by a communication device which is a source of information transmitted in connected mode, an operation of broadcasting (320) an item of information representing the release of the connection (256), to all the communication devices in the network (802 to 809), and

- performed by each communication device in said network, an operation of updating a load table for the links in the network.

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117. (Twice Amended) Communication method according to Claim 113, wherein, during the establishment of a connection, the operation of broadcasting (313), to at least all the communication devices outside the path, an item of information representing said passband requirement is performed after each communication device on said path has performed:

- an operation of determining the availability of said path, for said communication, as a function of information stored in a load table for each link in the network, and

- when the path is available:

○ an operation of transmitting said passband requirement to the following communication device on the path, and

○ an operation of updating a load table for the links in the network.

118. (Twice Amended) Communication method according to Claim 113, further comprising, during the establishment of a connection, performed by the source communication device, an operation of determining the whole of the path (1304) intended to be followed by the information to be transmitted in connected mode.

119. (Twice Amended) Communication method according to Claim 113, wherein, during the operation of transmitting (305) an item of information representing said passband requirement to the following communication device on said path (251), the source communication device transmits an item of information representing said path.

120. (Twice Amended) Communication method according to Claim 113,

wherein, during the broadcasting operation (313), the information representing said passband requirement follows a spanning tree for the network where at least half the leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

121.   (Twice Amended) Communication method according to Claim 113, wherein, during the broadcasting operation (313), the information representing said passband requirement is broadcast with an item of information representing the whole of the path associated with said connection.

122.   (Twice Amended) Communication method according to Claim 113, wherein each load table includes, for each link in the network, a reference (1120) concerning each path which includes said link and which is associated with a connection.

123.   (Amended) Communication method according to Claim 122, wherein, with each link in the network, there is associated an item of information representing the passband available on said link.

124.   (Twice Amended) Communication method according to Claim 113, wherein each load table includes, for each path, a reference concerning each link which it includes.

125.   (Amended) Communication method according to Claim 124, wherein, with each path, there is associated an item of information representing the

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passband available on said path.

126. (Twice Amended) Communication method according to Claim 123, wherein the item of information representing the passband available on said path is equal to the information on the passband available on the least available link in said path.

127. (Twice Amended) Communication method according to Claim 123, wherein, during the path determination operation (1304), the chosen path is a path whose availability is the highest.

128. (Twice Amended) Communication method according to Claim 113, further comprising, performed by the source communication device, an operation of determining the size of the packet to be transmitted on the network (1221), taking into account the load on said network.

129. (Twice Amended) Communication method according to Claim 113, further comprising, performed by the source communication device, an operation of determining the frequency of sending of packets to be transmitted on the network (1221), taking into account the load on said network.

130. (Twice Amended) Method according to Claim 113, wherein each communication device effects each transmission of information by packet switching.

131. (Twice Amended) Method according to Claim 113, for

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communicating between communication devices each able to determine, for each item of information which it has to transmit, a path to cause it to follow, further comprising:

- performed by each so-called "source" communication device which requires a connection associated with a path, in order to effect a transmission of information to a destination communication device, a connection request operation, during which the source communication device transmits, to each communication device on said path, a request to establish a connection,

- when the establishment of said connection is possible, performed by at least the destination communication device, an operation of sending, to the source communication device, a connection acceptance,

- performed by the source communication device, an operation of broadcasting, to all the communication devices in the network, an item of information representing the establishment of the connection,

- performed by each communication device on said path, on reception of said item of information representing the establishment of a connection, an operation of confirming the establishment of said connection, and

- performed by each communication device outside said path, on reception of said item of information representing the establishment of a connection, an operation of storing in memory an item of information representing said connection.

132. (Amended) Device for communicating on a network, comprising:

- a memory (204A) adapted to store a load table containing information relating to the load on each link in the network, and.

- is adapted, for establishing a connection intended for the

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transmission of information in connected mode:

       o   to determine a passband requirement for the transmission of said

information, connected mode,

       o   to determine any path available for said transmission, as a function

of information stored in said load table,

and, when an available path is determined,

       o   to transmit an item of information representing said passband

requirement, to the following communication device on said path,

       o   to update said load table,

       o   to broadcast, to at least all the communication devices outside the

path, an item of information representing said passband requirement, the source

communication device which is a source of information to be transmitted in connected

mode being adapted to vary size of data packets to be transmitted on the network with the

load on the path and transmission rate of the packets on said path.

135.   (Twice Amended) Communication device according to Claim 132,

wherein it is adapted, in order to transmit said passband requirement to the following

communication device on said path, to transmit an item of information representing an

application requirement for said transmission in connected mode.

136.   (Amended) Communication device according to Claim 135, further

comprising a means of determining communication parameters depending on the

application requirement, and in that it is adapted to update the load table whilst taking said

parameters into account.

137.   (Twice Amended) Communication device according to Claim 132, wherein it is adapted, in order to end a transmission in connected mode, to broadcast an item of information representing the release of the connection to all the communication devices in the network, so that each communication device in said network updates a load table for the links in the network.

138.   (Twice Amended) Communication device according to Claim 132, wherein it is adapted, for the establishment, to determine the whole of the path intended to be followed by the information to be transmitted in connected mode.

139.   (Twice Amended) Communication device according to Claim 132, wherein, in order to transmit an item of information representing said passband requirement to the following communication device on said path, it is adapted to transmit an item of information representing said path.

140.   (Twice Amended) Communication device according to Claim 132, wherein it is adapted to cause the item of information representing said passband requirement to follow a spanning tree for the network where at least half the leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

141.   (Twice Amended) Communication device according to Claim 132, wherein it is adapted to broadcast, with the item of information representing said passband requirement, an item of information representing the whole of the path associated with said

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connection.

142.   (Twice Amended) Communication device according to Claim 132, wherein said memory is adapted to store, in each load table, for each link in the network, a reference concerning each path which includes said link and which is associated with a connection.

143.   (Amended) Communication device according to Claim 142, wherein said memory is adapted to store, in said load table, for each link in the network, an item of information representing the passband available on said link.

144.   (Twice Amended) Communication device according to Claim 132, wherein said memory is adapted to store, in each load table, for each path, a reference concerning each link which it includes.

145.   (Amended) Communication device according to Claim 144, wherein said memory is adapted to store, in each load table, associated with each path, an item of information representing the passband available on said path.

146.   (Twice Amended) Communication device according to Claim 143, wherein said memory is adapted to store, in each load table, an item of information representing the passband available on said path equal to the information on the passband available on the least available link in said path.

147. (Twice Amended) Communication device according to Claim 144, wherein it is adapted, in order to determine a path, to choose the path whose availability is the highest.

148. (Twice Amended) Communication device according to Claim 132, further comprising a means of determining the size of the packet to be transmitted on the network adapted to take into account the load on said network.

149. (Twice Amended) Communication device according to Claim 132, further comprising a means of determining the frequency of sending of packets to be transmitted on the network adapted to take into account the load on said network.

150. (Twice Amended) Device according to Claim 132, wherein it is adapted to effect each transmission of information by packet switching.

151. (Twice Amended) Communication device according to Claim 132, on a network having communication devices each able to determine the path to be followed by each item of information which it has to send, wherein it is adapted, when it requires a connection associated with a path, in order to effect a transmission of information to a destination communication device:

- to cause the transmission means to send, to each communication device on said path, a message requesting the establishment of a connection, and

- on reception of a connection acceptance message coming from the destination communication device, to cause said transmission means to broadcast, to all the

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communication devices in the network, a message containing information on the

establishment of the connection.

160. (Twice Amended) An information storage means which can be read

by a computer or a microprocessor storing instructions of a computer program, wherein it

allows the implementation of a communication method according to Claim 113.

161. (Twice Amended) An information storage means which is

removable, partially or totally, and which can be read by a computer or a microprocessor

storing instructions of a computer program, wherein it allows the implementation of a

communication method according to Claim 113.

162. (Amended) Method of communicating on a network, between

communication devices each able to determine the path to be followed by each item of

information which it has to transmit, said method comprises:

- performed by each so-called "source" communication device (801)

which requires a connection associated with a path, in order to effect a transmission of

information to a destination communication device (802), an operation (305) requesting a

connection, during which the source communication device transmits, to each

communication device on said path, a request to establish a connection (251),

- when establishment of said connection is possible, performed by at

least the destination communication device, an operation of transmitting (381), to the

source communication device, a connection acceptance (252),

- performed by the source communication device, an operation of

broadcasting (313), to all the communication devices in the network, an item of

information representing the establishment of the connection (253),

- performed by each communication device on said path (803, 804),

on reception of said information representing the establishment of a connection, an

operation (345) of confirming the establishment of said connection, and

- performed by each communication device outside said path (805 to

809) on reception of said information representing the establishment of a connection, an

operation of storing in memory an item of information representing said connection (418).

163. (Amended) Communication method according to Claim 162,

wherein each communication device on said path (803, 804) performs, on reception of the

request to establish a connection (251), an operation of verifying the possibility of

establishing said connection (1404).

164. (Amended) Communication method according to Claim 163,

wherein each communication device on said path (803, 804), when, during the verification

operation (1404), the possibility of establishing the connection has been verified, performs

an operation of reserving resources necessary for said connection (1407).

165. (Amended) Communication method according to Claim 163,

wherein each communication device on said path (803, 804), when, during the checking

operation (1404), the possibility of establishing the connection is not verified, performs an

operation of transmitting (380), to the source communication device (801), an item of

information representing the impossibility of setting up the connection by said intermediate

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communication device.

166.   (Twice Amended) Communication method according to Claim 162, wherein, when establishment of said connection is possible, the operation of transmitting (381), to the source communication device, an item of information (252) representing a connection acceptance, is performed solely by the destination communication device (802).

167.   (Amended) Communication method according to Claim 166, wherein, in order to transmit said item of information representing a connection acceptance (252), the destination communication device (802) performs an operation of choosing a path independent of the path associated with the connection currently being established.

168.   (Twice Amended) Communication method according to Claim 162, further comprising, during the establishment of a connection, performed by each communication device (801 to 809) in the network, an operation of updating a load table containing information representing loads on links in the network incorporated in a path associated with a connection.

169.   (Amended) Communication method according to Claim 168, wherein, for the intermediate (803, 804) and destination (802) communication devices in the network, the load table updating operation is performed on reception of the request to establish a connection (251).

170.   (Amended) Communication method according to Claim 169,

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wherein, for the communication devices in the network situated outside the path associated with the connection currently being established (805 to 809), the load table updating operation is performed on reception of the information representing the establishment of a connection.

171. (Twice Amended) Communication method according to Claim 162, wherein the operation of broadcasting (313), to all the communication devices in the network (802 to 809), an item of information representing the establishment of the connection, an operation performed by the source communication device (801), is performed on a spanning tree for the network where at least half the leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

172. (Twice Amended) Communication method according to Claim 162, wherein the request (251) to establish a connection, sent by the source communication device (801), includes an item of information representing the application requirement for the transmission in connected mode associated with said connection.

173. (Twice Amended) Communication method according to Claim 162, wherein the connection establishment request (251) sent by the source communication device (801) includes an item of information representing the path associated with the connection currently being established.

174. (Twice Amended) Communication method according to Claim 162,

wherein each communication device (801 to 809) effects each transmission of information by packet switching.

175. (Amended) Device for communicating on a network having communication devices (801 to 809) each able to determine the path to be followed by each item of information which it has to transmit, wherein it is adapted, when it requires a connection associated with a path, to effect a transmission of information to a destination communication device:

- to cause a transmission means to transmit, to each communication device (802 to 804) on said path, an item of information requesting (251) the establishment of a connection, and

- on reception of an item of information on the acceptance of a connection (252) coming from the destination communication device, to cause said transmission means to broadcast, to all the communication devices in the network (802 to 809), an item of information on the establishment of the connection (253), the device being adapted so that the request to establish a connection, sent by the source communication device, includes an item of information representing an application requirement for the transmission in connected mode associated with said connection.

176. (Amended) Communication device according to Claim 175, wherein it is adapted, when it is the destination communication device (802) for a request to establish a connection (251), to determine whether the establishment of said connection is possible and, in this case, to cause the transmission means to transmit, to the source communication device (801), an item of information on the acceptance of the connection

(252).

177.   (Twice Amended) Communication device according to Claim 175,

wherein it is adapted, when it receives an item of information on the establishment of the

connection (251) and when it is situated on the path associated with the connection

currently being established, to confirm the establishment of said connection.

178.   (Twice Amended) Communication device according to Claim 175,

wherein it is adapted, when it receives an item of information on the establishment of the

connection (253) and when it is not situated on the path associated with the connection

currently being established, to store in memory an item of information representing said

connection.

179.   (Twice Amended) Communication device according to Claim 175,

wherein it is adapted, when it is a communication device on a path associated with a

connection currently being established (802 to 804), to verify the possibility of establishing

said connection (1404), on reception of the request to establish a connection (251).

180.   (Amended) Communication device according to Claim 179,

wherein, after having verified the possibility of establishing the connection (1404), said

communication device (802 to 804) is adapted to reserve the resources available to it and

which are necessary for said connection.

181.   (Amended) Communication device according to Claim 179, wherein

it is adapted, when the possibility of establishing the connection is not verified, to cause the transmission means to transmit, to the source communication device (801), an item of information representing the impossibility of setting up the connection by said intermediate communication device.

182.   (Twice Amended) Communication device according to Claim 175, wherein, when the establishment of said connection is possible, it is adapted to cause the transmission means to transmit, to the source communication device (801), the information representing a connection acceptance (252), solely when it is a destination communication device (802).

183.   (Amended) Communication device according to Claim 182, wherein, in order to cause said item of information representing a connection acceptance (252) to be transmitted, the destination communication device (802) is adapted to choose a path independently of a path associated with the connection currently being established.

184.   (Twice Amended) Communication device according to Claim 175, further comprising a memory (204A) adapted to store a load table containing information representing loads on links in the network incorporated in a path associated with a connection and in that it is adapted to update said load table.

185.   (Amended) Communication device according to Claim 184, wherein it is adapted, when it is an intermediate (803, 804) or destination (802) communication device, to update the load table on reception of the request to establish a connection (251).

186. (Amended) Communication device according to Claim 185, wherein it is adapted, when it is situated outside the path associated with the connection currently being established to update the load table on reception of the information representing the establishment of a connection (253).

187. (Twice Amended) Communication device according to Claim 175, wherein it is adapted to cause the transmission means to broadcast, to all the communication devices in the network (802 to 809), an item of information representing the establishment of the connection (253), causing this information to follow a spanning tree for the network where at least half the leaves are intermediate communication devices or the destination communication device, on the path associated with the connection.

189. (Twice Amended) Communication device according to Claim 175, wherein it is adapted so that the request to establish a connection (251), sent by the source communication device (801), includes an item of information representing the path associated with the connection currently being established.

199. (Twice Amended) An information storage means which can be read by a computer or a microprocessor storing instructions of a computer program, that allows the implementation of a communication method according to Claim 162.

200.   (Twice Amended) An information storage means which is removable, partially or totally, and which can be read by a computer or a microprocessor storing instructions of a computer program, wherein it allows the implementation of a communication method according to Claim 162.

201.   (New) Communication method according to claim 1, wherein the communication device which is a source of information to be transmitted in connected mode performs an operation of varying the size of data packets with a load on the path and transmission rate of the packets on the path.

202.   (New) Communication device according to claim 31, wherein the communication device which is a source of information to be transmitted in connected mode further comprises a variation means adapted, for varying the size of data packets with a load on the path and transmission rate of the packets on the path.

203.   (New) Communication method according to claim 71, wherein the communication device which is a source of information to be transmitted in connected mode performs an operation of varying the size of data packets with a load on the path and transmission rate of the packets on the path.

204.   (New) Communication device according to claim 87, wherein the communication device which is a source of information to be transmitted in connected mode further comprises a variation means adapted, for varying the size of data packets with a load on the path and transmission rate of the packets on the path.